

REMARKS

In the Final Office Action¹, the Examiner rejected claims 1-3 and 5-9 under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 6,842,108 to Akiyama et al. ("*Akiyama*") in view of Japanese Patent No. JP8-98227 to Kudo ("*Kudo*"); and rejected claim 4 under 35 U.S.C. §103(a) as unpatentable over *Akiyama* in view of *Kudo*, and further in view of U.S. Patent No. 6,549,120 to de Buda ("*de Buda*").

Applicants have amended claim 1. Claims 1-9 remain pending in this application.

Applicants respectfully traverse the rejection of claims 1-3 and 5-9 under 35 U.S.C. § 103(a). The prior art cited by the Examiner, *Akiyama* in view of *Kudo*, does not teach or suggest each and every element of claims 1-3 and 5-9. A *prima facie* case of obviousness has, therefore, not been established.

Claim 1 recites a power line communication device including, for example:

an internal electronic control unit connected to a connection point on a direct-current power line. . . and

an impedance element configured to conduct a direct current to an external load and inserted between the connection point and the external load,

wherein the impedance element has a higher impedance against a current component other than a direct current component.

(emphasis added). The Examiner states that body ECU 8 constitutes the claimed internal electronic control unit, power supply cable 5 constitutes the claimed direct-current power line, door ECU 9 constitutes the claimed external electronic control unit, and low pass filter 11 constitutes the claimed impedance element (Office Action at page 2). Applicants respectfully disagree.

¹ The Office Action contains a number of statements reflecting characterizations of the related art and the claims. Regardless of whether any such statement is identified herein, Applicants decline to automatically subscribe to any statement or characterization in the Office Action.

Fig. 2, of *Akiyama*, depicts low pass filter 11 contained within power supply IC 9a, which is contained within door ECU 9. Even assuming that low pass filter 11 teaches the claimed impedance element, low pass filter 11 is located inside door ECU 9. Low pass filter 11 is not inserted between a connection point and an external load.

Door ECU 9 does not contain an external load. Any door locking/unlocking mechanism, in *Akiyama*, is contained within door ECU 9 (col. 5, lines 5-20), therefore such a mechanism is not an external load. Moreover, micro-controller 9b is located “in the door ECU 9” (col. 5, lines 24-25), therefore, micro-controller 9b is also not an external load. For at least this reason, *Akiyama* does not teach a power line communication device including, “an impedance element configured to conduct a direct current to an external load and inserted between the connection point and the external load”, as recited in claim 1.

In addition, low pass filter 11 “blocks passage of a communication signal as a transmission signal for data communication among input signals from the power supply cable 5, and selectively allows only the power supply voltage to pass, thereby inputting the power supply voltage to the regulator 13” (col. 5, lines 30-35). There is no teaching, in *Akiyama*, that low pass filter 11 has a different impedance depending on the current. Therefore, *Akiyama* does not teach an impedance element that “has a higher impedance against a current component other than a direct current component”, as recited in claim 1.

The Examiner relies on *Kudo* for allegedly teaching the “known use of a load control by signal-over-powerline arrangement” (Office Action at page 2). Even assuming this assertion is true, *Kudo* fails to cure the deficiencies of *Akiyama* discussed

above. *Kudo* discloses that power line 1 is supplied with a power supply having a frequency of 50/60Hz. This power line is a commercial power line, not a direct-current power line (English translation at paragraphs 0002, 0019, 0022). In addition, terminal block 10, in *Kudo*, includes an impedance upper 12 having such a resonance frequency that “an impedance may be made to increase only the frequency component” (English translation at paragraph 0019). *Kudo* does not teach that terminal block 10 is “configured to conduct a direct current”. Moreover, *Kudo* does not teach an impedance element that “has a higher impedance against a current component other than a direct current component”, as recited in claim 1.

Accordingly, *Akiyama* and *Kudo* fail to establish a *prima facie* case of obviousness with respect to claim 1. Claim 2-3 and 6-9 depend from claim 1 and are thus also allowable over *Akiyama* in view of *Kudo* for at least the same reasons as claim 1.

Regarding the rejection of claim 4, dependent from claim 1, the Examiner relies on *de Buda* for allegedly teaching “various modulation methods [that] can be used on a power line” (Office Action at page 4). Even assuming this assertion is true, *de Buda* fails to cure the deficiencies of *Akiyama* and *Kudo* discussed above. *de Buda* discloses a power line communications system (col. 4, lines 30-51). However, *de Buda* does not teach an impedance element that “has a higher impedance against a current component other than a direct current component”, as recited in claim 1. Therefore, claim 4 is also allowable over *Akiyama*, *Kudo*, and *de Buda* for at least the same reasons as claim 1.

Applicants respectfully request that this Amendment under 37 C.F.R. § 1.116 be entered by the Examiner, placing claims 1-9 in condition for allowance. Applicants submit that the proposed amendments of claims 1-9 do not raise new issues or necessitate the undertaking of any additional search of the art by the Examiner. Therefore, this Amendment should allow for immediate action by the Examiner.

Applicants further submit that the entry of the amendment would place the application in better form for appeal, should the Examiner dispute the patentability of the pending claims.

Applicants respectfully request that this Amendment under 37 C.F.R. § 1.116 be entered by the Examiner, placing claims 1-9 in condition for allowance. This Amendment should allow for immediate action by the Examiner.

Furthermore, Applicants respectfully point out that the final action by the Examiner presented some new arguments as to the application of the art against Applicant's invention. It is respectfully submitted that the entering of the Amendment would allow the Applicants to reply to the final rejections and place the application in condition for allowance.

Finally, Applicants submit that the entry of the amendment would place the application in better form for appeal, should the Examiner dispute the patentability of the pending claims.

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration of the application and withdrawal of the rejections. Pending claims 1-9 are in condition for allowance, and Applicants request a favorable action.

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any required fees to our deposit account 06-0916.

Respectfully submitted,

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